

AMENDMENTS TO THE CLAIMS

The current claims of the present patent application are set forth below.

1.-17. (canceled)

18. (previously presented) An adapter unit operatively connected to an Internet Protocol (IP) phone, comprising:

a channel send-receive unit that sends signaling data to an exchange of a circuit-switched telecommunications network and receives signaling data from the exchange;

a data packet send-receive unit that sends data packets via a data packet transfer network towards a first telecommunication system and receives data packets from the first telecommunication system via the data packet transfer network, the data packets sent and received during a normal operating mode;

a data insertion-extraction unit that inserts the signaling data received by the channel send-receive unit into a data packet and forwards the packet to the data packet send unit and that extracts signaling data from a data packet received by the data packet receive unit and forwards the extracted signaling data to the channel send unit, the data inserted and extracted during the normal operating mode; and

an operating mode switchover unit that switches over from the normal operating mode to an emergency operating mode if a fault occurs on the side of the data packet transfer network,

wherein the emergency operating mode ensures telecommunication via the circuit-switched telecommunications network, and

wherein the signaling data is not processed by the adapter during the normal operating mode.

19. (previously presented) The adapter unit according to claim 18, further comprising a protocol conversion unit that converts the signaling data between a circuit-switched protocol and a data-packet protocol, the conversion performed during the emergency mode.

20. (previously presented) The adapter unit according to claim 19, further comprising a network access unit that performs network access functions for a plurality of terminals of a data packet transfer network during the emergency mode, the functions selected from the group consisting of a gatekeeper function in accordance with a protocol of the H.323 protocol family, a SIP registrar function in accordance with a SIP protocol, and SIP registrar function in accordance with a protocol based on the SIP protocol.

21. (previously presented) The adapter unit according to claim 20, wherein the plurality of terminals are IP phones including the first IP phone, wherein the number of terminals is less than 16, and wherein during the emergency mode the signaling messages are not sent via the data packet transfer network.

22. (previously presented) The adapter unit according to claim 21, wherein at least one of the terminals is adapted to detect the fault and change to an IP address of the adapter unit or of the first IP phone.

23. (previously presented) The adapter unit according to claim 19, further comprising a terminal unit that performs a peer-to-peer connection function during the emergency operating mode.

24. (previously presented) The adapter unit according to claim 18, wherein the data packets are transferred in accordance with an Internet protocol in the data packet transfer network, wherein the circuit-switched telecommunications network is a fixed network or a mobile radio network, wherein the signaling data is adapted in accordance with a signaling protocol for exchange lines between an exchange and a terminal or between the exchange and the first telecommunication system, and wherein the signaling protocol is DSS1 or based on DSS1.

25. (previously presented) The adapter unit according to claim 18, wherein the fault occurs at the first telecommunication system.

26. (previously presented) The adapter unit according to claim 18, wherein during the emergency operating mode:

the operating mode switchover unit forwards the signaling data to a second telecommunication system that is different than the first telecommunication system used in the normal operating mode, and

signaling data received from the second telecommunication system is sent to the exchange via the channel send unit.

27. (previously presented) The adapter unit according to claim 18, wherein during the emergency operating mode:

the operating mode switchover forwards the signaling data to a subscriber terminal, and

the signaling data received from the subscriber terminal is sent to the exchange via the channel send unit.

28. (previously presented) A method for operating a telecommunications system, comprising:

receiving signaling data of a circuit-switched telecommunications network;

providing a normal operating mode, comprising:

tunneling the received signaling data via a data packet transfer network from the adapter unit to a first telecommunication system, wherein a signaling protocol in the received signaling data is not processed by the adapter, and

processing the tunneled signaling data in the first telecommunication system in accordance with the signaling protocol; and

providing an emergency operating mode.

29. (previously presented) The method according to claim 28, wherein the normal operating mode further comprises:

detecting a failure of the data packet transfer network or of the first telecommunication system in the normal operating mode, and
automatically switching over into an emergency operating mode after the detection of the failure.

30. (previously presented) The method according to claim 29, wherein the emergency operating mode further comprises:

detecting a reactivation of the data packet transfer network or of the first telecommunication system, and
automatically switching over into the normal operating mode after the detection of the reactivation.

31. (previously presented) The method according to claim 28, wherein the emergency operating mode further comprises:

forwarding the signaling data from a channel receive unit of an adapter to a second telecommunication system, the second telecommunication system having performance features more restrictive than the first telecommunication system used in the normal operating mode,
forwarding signaling data from the second telecommunication system to the channel send unit, and
wherein the functions of the telecommunication system performed by a first IP telephone.

32. (previously presented) The method as according to claim 31, further comprising:
detecting the failure and reactivation by a second IP telephone; and
registering the second IP telephone at the second telecommunication system, wherein retaining the interface protocol in comparison with the normal operating mode is retained

33. (previously presented) The method as according to claim 31, wherein the emergency operating mode further comprises:

forwarding the signaling data received by the channel receive unit to an IP telephone, and
forwarding signaling data sent by the IP telephone to the channel send unit,
wherein the IP telephone performs functions of a telephone which is operated directly at the circuit-switched telecommunications network.

34. (previously presented) The method as according to claim 33, wherein the emergency operating mode further comprises:
an IP telephone (80), which in the emergency operating mode performs functions of a telephone which is operated directly at the circuit-switched telecommunications network (20, 22), detecting the failure or the reactivation.

35. (previously presented) The method as according to claim 30, wherein the emergency operating mode further comprises:
performing a protocol conversion of the signaling data into a signaling protocol for a data packet transfer network,
transferring the converted signaling data to an IP telephone,
receiving signaling data in accordance with a signaling protocol for a data packet transfer network from an IP telephone, and
performing a protocol conversion for the received signaling data in accordance with a protocol for the signaling in the circuit-switched telecommunications network.

36. (previously presented) The method as according to claim 35, wherein the emergency operating mode further comprises:
detecting the failure or the reactivation by an adapter, and
registering at least one IP telephone with the adapter unit or setting up a peer-to-peer connection between the adapter unit and the at least one IP telephone.

37. (previously presented) The method according to claim 36, wherein the signaling protocol for the data packet transfer network is a protocol of the H.323 protocol family or a SIP protocol or a peer-to-peer protocol.

38. (previously presented) A method for operating a telecommunications system, comprising:

- providing an adapter unit operatively connected to a circuit-switched telecommunications network, operatively connected to a telecommunication system via a data network and operatively connected to an IP telephone,

- receiving a first signaling data of the circuit-switched telecommunications network by the adapter unit, the first signaling data having a circuit-switched-signaling protocol, and

- providing a normal operating mode, comprising:

 - tunneling the first signaling data via the data packet transfer network from the adapter unit to the first telecommunication system, wherein the received circuit-switched-signaling protocol is not processed by the adapter,

 - processing the circuit-switched-signaling protocol in the telecommunication system in accordance with the signaling protocol,

 - detecting a failure of the data packet transfer network or of the first telecommunication system, and

 - automatically switching over into an emergency operating mode after the detection of the failure; and

- providing an emergency operating mode:

 - converting the received circuit-switched-signaling protocol to a data-packet-signaling protocol to form a first data packet,

 - sending the first data packet to the IP telephone,

 - receiving by the adapter unit a second data-packet having the data-packet-signaling protocol,

 - converting the data-packet-signaling to the circuit-switched-signaling protocol forming a second-circuit-switched data,

 - sending the second-circuit-data to the circuit switched network,

 - detecting a reactivation of the data packet transfer network or of the first telecommunication system, and

 - automatically switching over into a normal operating mode after the detection of the reactivation.

39. (previously presented) The method according to claim 38, wherein the IP telephone registers with the adapter after the failure.

40. (previously presented) The method according to claim 38, wherein the adapter is operatively connected less than 16 IP telephones.